

high.

The wing was pivoted by an electrically driven gear mechanism located inside the fuselage, just forward of the engines.

Flight Research

The research program to validate the oblique wing concept was typical of any NASA high-risk project — to advance through each test element and expand the operating envelope, methodically and carefully. The basic purpose of the AD-1 project was to investigate the low-speed characteristics of an oblique-wing configuration.

The AD-1 made its first flight late in 1979. The wing was pivoted incrementally over the next 18 months until the full 60-degree angle was reached in mid-1981. The aircraft continued to be flown for another year, obtaining data at various speeds and wing-pivot angles until the final flight in August 1982.

The final flight of the AD-1 did not occur at Dryden, however, but at the Experimental Aircraft Association's (EAA) annual exhibition at Oshkosh, Wis., where it was

system would also have done.

Thus, although the AD-1 structure allowed completion of the program's technical objectives, there was still a need for a transonic oblique-wing research airplane to assess the effects of compressibility, evaluate a more representative structure, and analyze flight performance at transonic speeds (those on either side of the speed of sound).

Sources

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NASA photo ECN-17954 AD-1 with research pilot Richard E. Gray .

flown eight times to demonstrate its unique configuration. Following the flight research, Jones still considered the oblique wing as a viable lift concept for large transoceanic or transcontinental transports. This particular low-speed, low-cost research vehicle, however—as expected—exhibited aeroelastic and pitch-roll-coupling effects that contributed to poor handling qualities at sweep angles above 45 degrees. The fiberglass structure limited wing stiffness that would have improved the aircraft's handling qualities, as an improved (and thus more expensive) control